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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,845

03/07/2007

David Tobler

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27049 7590 06/10/2010

OLIFF & BERRIDGE, PLC

P.O. BOX 320850

ALEXANDRIA, VA 22320-4850

EXAMINER

DOLLINGER, MICHAEL M

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

06/10/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/584,845	Applicant(s) TOBLER, DAVID	
	Examiner MIKE DOLLINGER	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 1-23 and 27-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen (US 5,725,906).
2. Allen discloses polymer concrete compositions comprising a slurry of a solid aggregate composition and a liquid monomer mixture [abstract]. The solid aggregate component is first mixed with a liquid compound agent prior to mixing with the liquid monomer phase [column 14 lines 22-26]. The coupling agent includes methacryloxypropyl-trimethyloxysilane [column 13 lines 13-14] and henceforth the aggregates read on the component A of the claims with at least two alkoxysilane groups. Only up to about 7 weight percent of the co-comonomer is used as a coupling agent so the proportion of comonomer methacryloxypropyl-trimethyloxysilane that does not act as coupling agent also reads on component A of the claims with three alkoxysilane groups. Liquid monomer mixtures of the examples include trimethylolpropane trimethacrylate (TMP-TMA) and gamma-methacryloxypropyl-trimethyloxy-trimethyloxysilane with functionalities f of 2.77 (mixture C) and 2.87 (mixture I) [Table 3]. The concrete composition is cured (polymerized) at 93°C [column

7 lines 6-8]. The composition includes benzoyl peroxide [Table 3] which has a $T_{1/2}$ (1h) of 91.7°C.

Response to Arguments

3. Applicant's arguments filed 03/22/2010 with respect to Allen (US 5,725,906) have been fully considered but they are not persuasive.

4. Applicants argue that when the coupling agent is chemically absorbed by or coats the aggregate particles, the coupling agent is reacting with the solid particles. Applicants argue that the methacryloxypropyl-trimethyloxysilane reacts with the mineral surfaces of the solid aggregates at the alkoxy groups to form Si-O siloxane bonds, thus removing any silane bonds from the aggregate surface. Therefore there are no reactive silane groups left remaining and the coupling agent does not read on the component A of the claims. This argument is not convincing. Firstly, it is not clear that a chemical reaction to form siloxane bonds between the aggregates and the silane coupling agent occurs; the coupling agent may also be trimethylolpropane-trimethacrylate [col 13 line 15] which would not react to form siloxane bonds. How would the trimethylolpropane-trimethacrylate chemically react with the aggregates? Assuming, *arguendo*, that the methacryloxypropyl-trimethyloxysilane coupling agents do react with the aggregates, applicants' arguments are still not convincing. Firstly, it is very unlikely that all the alkoxysilane groups will react with the aggregate surface; for reasons of steric hindrance a majority of methacryloxypropyl-trimethyloxysilane will not react at all three alkoxysilane groups, leaving at least the claimed two reactive groups on the aggregate

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particles. Secondly, not all of the co-monomer is used as a coupling agent, only up to about 7 percent [col 13 lines 11-15].

5. Applicants argue that the corresponding B1 of Allen (gamma-methacryloxypropyl-trimethyloxysilane) is not one that does not contain groups that react with an NCO, an epoxide, or an alkoxysilane group. This argument is not convincing. Gamma-methacryloxypropyl-trimethyloxysilane does not read on B1, trimethylolpropane trimethacrylate reads on B1. Trimethylolpropane trimethacrylate has three methacrylate groups and no groups reactive with NCO, epoxy or alkoxysilane. The claims requiring that the (meth)acrylate B1 have these limitations and when mixed with another (meth)acrylate has a functionality of 2.5 to 4.5. The claims do not require that the other (meth)acrylate that is mixed with B1 be absent of reactive groups.

6. Applicant's arguments, see pages 10-11 Section B, filed 03/22/2010, with respect to Corley (US 5,137,990) have been fully considered and are persuasive. The rejection of 10/20/2009 has been withdrawn.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MIKE DOLLINGER whose telephone number is (571)270-5464. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/mmd/

/RANDY GULAKOWSKI/
Supervisory Patent Examiner, Art Unit 1796